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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,882	07/09/2003	Kamlesh Rath	27592-00912-US	2633
30678 7590 08/19/2008 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20036				
EXAMINER GONZALEZ, AMANCIO				
ART UNIT		PAPER NUMBER		
2617				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/616,882

**Applicant(s)**

RATH, KAMLESH

**Examiner**

AMANCIO GONZALEZ

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Petition for revival of this application filed on 07/03/2008 is acknowledged.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-4, 7, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi -Ahy (US Pat 7158784), hereafter "Majidi," in view of Kay et al. (US 6836515 B1), hereafter "Kay," further in view of Bandeira et al. (US Pat 6728514), hereafter "Bandeira."

Consider claim 1, Majidi discloses:

a mesh access network (see col. 8 lines 51-67) comprising:

at least one base-station comprising a plurality of sectors (see the abstract, col. 2 lines 3-34, col. 3 lines 32-38, col. 4 lines 19-24, col. 5 lines 9-18, figs. 1-5);

each sector comprising of a plurality of terminal nodes, said terminal nodes comprising a plurality of repeaters (*terminal nodes read on premises equipment* -see the abstract, col. 2 lines 23-26, col. 3 lines 49-58, col. 4 lines 15-18, col. 5 lines 12-14, col. 8 lines 55-67).

But Majidi does not disclose indoor and outdoor terminal nodes; or wherein said base-station sectors use different frequency bands that are located in alternate sectors of said base-station; or a module for interference management and sector reuse comprising network management of frequency, time, and directionality.

Kay, in related art, discloses:

indoor and outdoor terminal nodes (*indoor and outdoor terminal nodes read on indoor and outdoor units* -see col. 10 lines 66-67, col. 11 lines 1-24, col. 12 lines 1-11, fig. 2 elements 202, 206, 212, and 218);

wherein said base-station sectors use different frequency bands that are located in alternate sectors of said base-station (see col. 16 lines 40-57);

a module for interference management and sector reuse comprising network management (*module reads on equalizer* -see col. 3 lines 54-55, col. 17 lines 8-23, col. 15 lines 43-46, col. 74 lines 61-67, col. 75 lines 1-6).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Majidi and have it include indoor and outdoor terminal nodes, base-station sectors using different frequency bands that are located in alternate sectors of said base-station, a module for interference management and sector reuse, and network management, as taught by Kay, thereby providing

means for enhancing quality of service -QoS- for data access in a wireless broadband utilizing a cell-based point-to-multipoint system or for a mesh multipoint-to-multipoint topology.

But the combined references of Majidi and Kay do not disclose management of frequency, time, and directionality; or wherein said nodes in each sector are arranged in a tree structure starting from said base-station.

Bandeira, in related art, discloses:

management of frequency, time, and directionality (*management* reads on *use of* and *directionality* reads on *directional diversity* –see col. 2 lines 62-65, and col. 3 lines 16-21); and

wherein said nodes in each sector are arranged in a tree structure starting from said base-station (see col. 3 lines 35-59, col. 6 lines 27-36, col. 13 lines 63-67 and col. 14 lines 1-16, figs. 1 and 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi and Kay and have it include nodes arranged in a tree structure, as taught by Bandeira, thereby providing means for efficiently transferring large amount of multimedia content between various remote locations and a central location, as discussed by Bandeira (see col. 1 lines 13-28).

Consider claims 2 and 7, Majidi, as modified by Bandeira, teaches claim 1 above, and Majidi further discloses base station and repeaters (see Majidi: see abstract, col. 2 lines 23-26, col. 4 lines 15-18).

Consider claims 3, 4, and 13-18, Majidi, as modified by Bandeira, teaches claims 1 and 2 above respectively; Majidi further discloses a multi-sector cell and time-slot – TDMA- system (see Majidi: col. 8 lines 51-67, col. 10 lines 31-36); and Bandeira further discloses several level of repeaters (see Bandeira: col. 9 lines 63-67 and col. 10 lines 1-4).

Consider claim 12, Majidi, as modified by Bandeira, teaches claim 1 above, and Bandeira further teaches tree-structured network (see col. 3 lines 35-59, col. 6 lines 27-36, col. 13 lines 63-67 and col. 14 lines 1-16, figs. 1 and 2).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi -Ahy (US Pat 7158784), hereafter "Majidi," in view of Kay et al. (US 6836515 B1), hereafter "Kay," further in view of Bandeira et al. (US Pat 6728514), hereafter "Bandeira," as applied to claim 1 above, further in view of Bustamante et al. (US Pat 5809431), hereafter "Bustamante."

Consider claims 5 and 6. Majidi as modified by Kay and Bandeira teaches claim 1 above, but does not explicitly refer to frequency reuse.

Bustamante, in related art, discloses frequency reuse (see col. 6, lines 26-40).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi, Kay, and Bandeira and have it include frequency reuse, as taught by Bustamante, thereby providing a frequency reuse scheme in a cellular network for the purpose of increasing capacity and minimizing interference.

6. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majidi-Ahy (US Pat 7158784), hereafter "Majidi," in view of Kay et al. (US 6836515 B1), hereafter "Kay," further in view of Bandeira et al. (US Pat 6728514), hereafter "Bandeira," as applied to claims 1 and 7 above, further in view of Ngan et al. (US Pat 6973312), hereafter "Ngan."

Consider claims 8 and 9. Majidi as modified by Kay and Bandeira teaches claims 1 and 7 above respectively, but does not particularly refer to increasing capacity adding carrier.

Ngan discloses increasing capacity adding carrier (see col. 1, lines 1-3; col. 5, lines 47-52).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined inventions of Majidi, Kay, and Bandeira and have it include increasing capacity adding carrier, as taught by Ngan, thereby providing a frequency plan in a wireless network for the purpose of accommodating a greater number of users in a required moment at a determined coverage area.

Consider claim 10. Majidi as modified by Kay, Bandeira, and Ngan teaches claim 10 above, and Majidi further discloses base station and repeaters (see Majidi: see abstract, col. 2 lines 23-26, col. 4 lines 15-18).

Consider claim 11. Majidi as modified by Kay and Bandeira teaches claim 9 above; Majidi further discloses a multi-sector cell and time-slot –TDMA– system (see

Majidi: col. 8 lines 51-67, col. 10 lines 31-36); and Bandeira further discloses several level of repeaters (see Bandeira: col. 9 lines 63-67 and col. 10 lines 1-4).

***Response to Arguments***

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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P.O. Box 1450  
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**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Delaney Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amancio Gonzalez, whose telephone number is (571) 270-1106. The Examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah, can be reached at (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

AG/ag

August 18, 2008

/Charles N. Appiah/  
Supervisory Patent Examiner, Art Unit 2617